

### **REMARKS**

Presently, claims 102-125 are pending in the application. Claims 96-101 have been canceled. Independent claims 102 and 108 have been amended to more clearly recite and particularly point out the present invention. Support for the amendments to claims 102, and 108 may be found, for example, at page 29, line 28 – page 32, line 1 and at page 33, line 21 – page 34, line 9 of the specification. Dependent claims 104, 106-107, 109-111, 113 and 115-116 have been amended to be consistent with claims 102 and 108, respectively, as amended. New claims 117-125 have been added to alternatively recite the present invention. Support for the features of new independent claim 117 may be found, for example, in claim 108 and at page 29, line 28 – page 32, line 1 and at page 33, line 21 – page 34, line 9 of the specification. New dependent claims 118-125 correspond to claims 109-116, respectively. Accordingly, no new matter has been added to the application by the foregoing amendments.

### ***Examiner Interview***

Applicants and the undersigned thank Examiner Sheleheda for the courtesies extended during a personal interview conducted on August 17, 2005, to discuss the present application and Office Action. During the interview, proposed amendments to the claims were discussed. Applicants' reasons as to why such amendments overcome the Examiner's prior art rejections were also discussed. Such reasons are detailed below.

As a result of the interview, the Examiner stated that the proposed amendments and arguments with respect to independent claims 102 and 108 were understood and appeared to be compelling, but reserved the right to review Applicants' arguments in detail upon submission of a formal response. The amendments submitted herewith include the amendments presented with the Examiner during the interview. The arguments presented in this paper are substantively the same as those discussed during the Interview.

***Claim Rejections – § 112, first paragraph***

The Examiner has rejected claim 96 under 35 U.S.C. § 112, first paragraph, for failing to comply with the written description requirement. Although not necessarily agreeing with the Examiner, claim 96 has been canceled. Accordingly, the Examiner's rejection of claim 96 is moot. Reconsideration and withdrawal of the Examiner's §112, first paragraph rejection of claim 96 are respectfully requested.

The Examiner has rejected claims 96, 102 and 108 under §112, first paragraph, for failing to comply with the written description requirement. Specifically, the Examiner contends that the phrase "inferring the size of the household based on the number of distinct viewer characteristics" recited in these claims is not supported by the specification to enable one skilled in the art to make and use the invention.

Although not necessarily agreeing with the Examiner, to further prosecution of the present application, independent claims 102 and 108 have been amended to recite --inferring the number of people in the household based on the assigned viewer characteristics--. Applicants respectfully submit that such language is supported by the disclosure in accordance with §112, first paragraph (see, for example, FIG. 10B and page 31, line 19 – page 32, line 1 and page 33, line 21 – page 34, line 9 of the specification). Claim 96 has been canceled. Reconsideration and withdrawal of the Examiner's §112, first paragraph rejection of claims 96, 102 and 108 are respectfully requested.

The Examiner has rejected claim 98 under § 112, first paragraph, for failing to comply with the written description requirement. Although not necessarily agreeing with the Examiner, claim 98 has been canceled. Accordingly, the Examiner's rejection of claim 98 is moot. Reconsideration and withdrawal of the Examiner's §112, first paragraph rejection of claim 98 are respectfully requested.

The Examiner has rejected claims 104 and 113 under 35 U.S.C. § 112, first paragraph, for failing to comply with the written description requirement. Specifically, the Examiner contends that the language "wherein the heuristic rules assign probabilities of a viewer characteristic being associated with another viewer characteristic based on the viewer interaction characteristics" is not supported by the specification to enable one skilled in the art to make and use the invention.

Although not necessarily agreeing with the Examiner, to further prosecution of the present application, claims 104 and 113 have been amended to recite --wherein the heuristic rules assign probabilities...being associated with a portion of the viewer interaction data--. Applicants respectfully submit that such language is adequately supported by the disclosure in accordance with §112, first paragraph (see, for example, FIG. 10B and page 31, line 19 – page 32, line 1; and page 33, line 21 – page 34, line 9 of the specification). Reconsideration and withdrawal of the Examiner's §112, first paragraph rejection of claims 104 and 113 are respectfully requested.

***Prior Art Rejection – § 102(e)***

The Examiner has rejected claims 96, 97, 99, 100, 102, 103, 105, 106, 108, 109, 112, 114 and 115 under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,177,931 to Alexander *et al.* (“Alexander”). The Examiner contends that Alexander discloses all elements of the present invention. Applicants respectfully traverse this rejection.

Alexander teaches improvements to electronic program guides (“EPGs”), including viewer interaction capabilities, opportunities for advertisers to reach viewers and creating of viewer profiles. Alexander's system allows the viewer to interact with the EPG, including selecting programming (including advertisements) for viewing and/or recording. The user may also interact with the EPG by scrolling through the listings which are not displayed on the initial screen. The EPG in Alexander collects information about the viewer, either by obtaining the requested information directly from viewer input or learning the desired information by recording the viewer's “actions and circumstances surrounding those actions” with the EPG (see column 28, lines 30-59 of Alexander). The information that the EPG records includes instructions provided to the EPG (e.g., a channel change) as well as the time that that change was requested and the programming switched to and from as a result of the change. The EPG also records the absence of user interaction. Alexander teaches that a “viewer profile analysis program” performs a “simple statistical analysis” of the collected data and, combined with the viewer's profile information, develops “viewer characteristics” (see column 29, lines 30-60 of Alexander). The profile analysis program also compares one viewer profile to

other viewer profiles to further aid in displaying similar content to similar viewers. Alexander then uses the viewer characteristics to customize the EPG, so that the viewer is presented with programming and/or advertisements that are likely to be of interest, both in terms of content and order of display. Alexander also teaches that the EPG may display advertisements based on specific programming that the viewer is currently watching or that certain advertisements may be assigned to particular "classes" of programming.

Applicants' invention includes monitoring viewer interactions (or lack thereof) with a multimedia device and then generating certain interaction data about the viewer based on those observed or collected interactions. The viewer interaction data could be determined for a single "session" or averaged over multiple sessions. For example, viewer interaction data might include calculated parameters such as rate of channel change and/or average volume level. Heuristic rules are applied to the viewer interaction data to assign a viewer characteristic related to the data. Finally, based on the assigned characteristics, Applicants' invention infers the number of people in the household.

For a rejection under § 102(e) to be proper, a reference must disclose, either explicitly or inherently, each and every element of the claimed invention. Applicants respectfully submit that Alexander does not teach each and every element recited in independent claim 102.

Independent claim 102, as amended, recites:

In a video network, a computer-implemented method of determining the number of people in a household, the method comprising:

- (a) monitoring viewer interactions with a multimedia device;
- (b) processing the viewer interactions to determine viewer interaction data corresponding to the viewer interactions;
- (c) applying one or more heuristic rules to the viewer interaction data, wherein the heuristic rules assign one or more viewer characteristics based on the viewer interaction data; and
- (d) inferring the number of people in the household based on the one or more assigned viewer characteristics.

Alexander does not disclose “applying one or more heuristic rules” to “viewer interaction data,” as recited in independent claim 102. Applicants respectfully, but strenuously, disagree with the Examiner’s assertion that Alexander teaches the application and/or use of “heuristic rules.” At no point does Alexander discuss “heuristic” rules. Applicants’ acknowledge that Alexander utilizes a “Profile Program” that “performs multiple levels of sophisticated analysis and learning involving numerous comparisons...to develop of multi-dimensional profile of the viewer” (see column 30, lines 1-7). However, the data used by the Profile Program in Alexander is based on a “simple statistical analysis” and “basic viewer profile data”. The use of statistical analysis to generate information (e.g., the viewer profile) is different than using *heuristic rules* to develop similar types of information. Alexander’s statistical approach is based purely on a mathematical analysis, whereas the use of heuristic rules requires a rule that is used to infer or derive something from the data that could not be calculated simply from a statistical analysis of the data. Moreover, Alexander discloses that the viewer characteristics that form the viewer profile are developed “over time,” and “with sufficient data.” Such a teaching is consistent with the use of a statistical analysis, but not with heuristic rules. Thus, Alexander’s discussion of the Profile Program and the various data points that are utilized therein does not disclose, teach or suggest the use of “heuristic rules”. In contrast, in Applicants’ invention, heuristic rules that are composed of both logical heuristic rules and heuristic rules expressed in terms of conditional probabilities are (see, for example, page 13, lines 18-24 and page 26, line 19 – page 27, line 17 of the specification) are applied and assign one or more “viewer characteristics” from the viewer interaction data.

Alexander also does not disclose “inferring the number of people in the household based on the one or more assigned viewer characteristics.” Alexander does not include any discussion directed to determining the number of people in a household. Although Alexander’s Profile Program determines a viewer’s preferences and demographic information about the viewer based on observed interactions of that viewer, Alexander does not infer the number of people in a household size, whether corresponding to that viewer or not. For example, Alexander discloses that the analysis of the Profile Program determines Viewer Characteristics, including such factors as whether the viewer is

married or has children. However, such characteristics do not teach indicate a “number of people in a household based on the one or more assigned viewer characteristics” as recited in independent claim 102. That is, whether a viewer is married or has children does not lead to an inference, based on heuristic rules, as to the number of people in that household. Even if such a connection could be made, it is not taught by Alexander. Accordingly, Alexander does not disclose all of the features of independent claim 102. Thus, independent claim 102 is believed to be allowable over Alexander.

Independent claim 108 and new independent claim 117 recite “applying one or more heuristic rules to the viewer interaction data, wherein the heuristic rules assign one or more viewer characteristics based on the viewer interaction data; and inferring the number of people in the household based on the assigned viewer characteristics.” For the same reasons discussed above with respect to independent claim 102, Alexander does not disclose all of the features of independent claims 108 and 117. Accordingly, independent claims 108 and 117 are believed to be allowable over Alexander.

Dependent claims 103-107, 109-116 and 118-125 are allowable at least by their dependency on independent claims 102, 108 and 117, respectively. Claims 96-101 have been canceled. Reconsideration and withdrawal of the Examiner’s § 102(e) rejection of claims 96, 97, 99, 100, 102, 103, 105, 106, 108, 109, 112, 114 and 115 are respectfully requested.

#### ***Prior Art Rejections – § 103(a)***

The Examiner has rejected claims 110 and 111 under 35 U.S.C. §103(a) as being unpatentable over Alexander. For the same reasons discussed above with respect to the Examiner’s anticipation rejection over Alexander, Applicants respectfully submit that Alexander does not teach or suggest all of the features recited in independent claims 102, 108 and 117. Thus, claims 102, 108 and 117 are believed to be allowable over Alexander. Dependent claims 110 and 111 are thus allowable at least by their dependency on independent claim 108.

The Examiner has further taken Official Notice (see page 11 of the Office Action) that it is “well known in the art to use an average as representative of a large range of values for the typical benefit of finding a value with the best correlation and reducing the

effects of extreme values on a system.” However, Applicants disagree that there are “facts outside of the record which are capable of instant and unquestionable demonstration as being ‘well-known’ in the art,” as required by M.P.E.P. §2144.03, which would support an Examiner’s finding of Official Notice.

To the extent that the Examiner’s taking of Official Notice may be applied to any of the pending claims, Applicants respectfully traverse the Examiner’s taking of Official Notice, and respectfully request that the Examiner support the taking of Official Notice by producing a relevant reference that supports this position, and that the Examiner identify a specific teaching in the reference to support a combination with Alexander or any other reference applied to make an obviousness rejection. Reconsideration and withdrawal of the Examiner’s §103(a) rejection of claims 110 and 111 are respectfully requested.

The Examiner has rejected claims 101, 107 and 116 as being unpatentable over Alexander in view of U.S. Patent No. 5,801,747 to Bedard (“Bedard”). For the same reasons discussed above with respect to the Examiner’s rejections over Alexander, independent claims 102, 108 and 117 are believed to be allowable over Alexander. Applicants respectfully submit that Bedard does not teach or suggest the elements missing from Alexander. Thus, independent claims 102, 108 and 117 are allowable over the combination of Alexander and Bedard. Dependent claims 107 and 116 are thus allowable at least by their dependency on independent claim 108. Claim 101 has been canceled. Reconsideration and withdrawal of the Examiner’s obviousness rejection of claims 101, 107 and 116 are respectfully requested.

***Conclusion***

In view of the foregoing amendments and remarks, Applicants respectfully submit that the Examiner's rejections have been overcome, and that the application, including claims 102-125, is in condition for allowance. Reconsideration and withdrawal of the Examiner's rejections and an early Notice of Allowance are respectfully requested.

Respectfully submitted,

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